

## PATENT COOPERATION TREATY

## PCT

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|   |   |   |
|---|---|---|
| Applicant's or agent's file reference<br><b>E 1068.0</b>  | <b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416                 |   |
| International application No.<br><b>PCT/NO2004/000003</b>   | International filing date (day/month/year)<br><b>12-01-2004</b> | Priority date (day/month/year)<br><b>29-12-2003</b> |
| International Patent Classification (IPC) or national classification and IPC<br><b>See Supplemental Box</b> |   |   |
| Applicant<br><b>Elkem ASA et al</b>   |   |   |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:

- a. ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
  - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
  - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

- b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

|   |   |
|---|---|
| Date of submission of the demand<br><b>03-10-2005</b>   | Date of completion of this report<br><b>14-03-2006</b>                              |
| Name and mailing address of the IPEA/SE<br>Patent- och registreringsverket<br>Box 5055<br>S-102 42 STOCKHOLM<br>Facsimile No. +46 8 667 72 88 | Authorized officer<br><br><b>Moa Grönkvist/ELY</b><br>Telephone No. +46 8 782 25 00 |

Form PCT/IPEA/409 (cover sheet) (April 2005)

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

PCT/NO2004/000003

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: Cover sheet

**International patent classification (IPC)**

**C30B 13/00** (2006.01)

**C01B 33/00** (2006.01)

**C30B 15/00** (2006.01)

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NO2004/000003

Box No. I

Basis of the report

1. With regard to the **language**, this report is based on:



the international application in the language in which it was filed



a translation of the international application into \_\_\_\_\_,  
which is the language of a translation furnished for the purposes of:



international search (Rules 12.3(a) and 23.1(b))



publication of the international application (Rule 12.4(a))



international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:



the international application as originally filed/furnished



the description:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_



the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_



the drawings:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_



a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.



The amendments have resulted in the cancellation of:



the description, pages \_\_\_\_\_



the claims, Nos. \_\_\_\_\_



the drawings, sheets/figs \_\_\_\_\_



the sequence listing (*specify*): \_\_\_\_\_



any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4.



This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).



the description, pages \_\_\_\_\_



the claims, Nos. \_\_\_\_\_



the drawings, sheets/figs \_\_\_\_\_



the sequence listing (*specify*): \_\_\_\_\_



any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NO2004/000003

## Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

|                               |        |            |     |
|-------------------------------|--------|------------|-----|
| Novelty (N)                   | Claims | <u>3-9</u> | YES |
|                               | Claims | <u>1-2</u> | NO  |
| Inventive step (IS)           | Claims | <u>7-9</u> | YES |
|                               | Claims | <u>1-6</u> | NO  |
| Industrial applicability (IA) | Claims | <u>1-9</u> | YES |
|                               | Claims |            | NO  |

### 2. Citations and explanations (Rule 70.7)

The claimed invention relates to a silicon feedstock and a method for the production of a feedstock. The feedstock should contain between 0.2 and 10 ppm boron and between 0.1 and 10 ppm phosphor distributed in the material. The object of the invention is to produce solar grade silicon from metallurgical grade silicon.

Reference is made to the following documents:

D1: US 4247528

D2: US 5972107

The most relevant prior art is described in D1.

Document D1 relates to a method for producing silicon of solar grade with a content of phosphor not higher than 20 ppm and a content of boron not higher than 10 ppm. Preferably the boron content should not be higher than 8 ppm and the phosphor content not higher than 5 ppm. See col. 3, line 24-46.

The subject matter claimed in claim 1-2 does not differ from D1.

The subject matter claimed in claims 3-6 does not differ significantly from D1 since the result of such a similar process should be about the same amount of metallic elements.

D2 discloses methods from previously known prior art on how to produce SG silicon. Arc furnaces, acid leaching, slagging and recrystallisation are mentioned (see col.1, line 45-56).

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: BOX V

It is not considered to be obvious for the skilled person to arrive at the combination of process steps set out in claim 9 in view of D1 and D2. Thus, the subject-matter of claim 9 involves an inventive step in view of D2. Claims 7 and 8 are novel and considered to involve an inventive step in view of D1.

According to the arguments stated above, the invention claimed in claims 1-2 is not novel and the invention claimed in claims 2-6 is novel but not considered to involve an inventive step. Claims 7-9 are considered to involve an inventive step. The invention is industrially applicable.